A New Cleidopus and Four Other Fishes New to New Zealand.

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MONOCENTRIDAE.

CLEIDOPUS De Vis 1882.

1882 *Cleidopus* De Vis. Proc. Linn. Soc. N.S. Wales, vol. 7, pt. 3, Oct. 28, p. 367. Haplotype *C. gloria-maris* De Vis.

A small specimen of a *Cleidopus* allied to the Eastern Australian *gloria-maris* De Vis 1882 (Proc. Linn. Soc. N.S. Wales, vol. 7, pt. 3, p. 368) was found during August, 1938, on Opoutama Beach, 40 miles south of Gisborne, by Mr. F. Faram, and forwarded to the Museum by Mr. L. G. Spiller. Unfortunately I have been unable to secure for comparative purposes examples of *gloria-maris* of equivalent size. However, the great difference in the form of the suborbital in the New Zealand fish, as compared with that of the Eastern Australian species, is considerd likely to be fairly constant throughout the growth stages of the respective fishes, and is the main characteristic upon which this proposed new species is based.*

Cleidopus neozelanicus n. sp. Pl. 36.

D.6/12: A.12: V.1/3: P.13: C.26.

Length without caudal rays, 53 mm.; maximum depth of body, 32 mm.; maximum width of body, 16.75 mm.; length of ventral spines, 18 mm. A notable difference from *gloria-maris* is in the form of the suborbital, which is as deep as the diameter of the eye, not reduced to a narrow strip of bone as in the Australian species. The intermediate lateral crest shown in the figure of *neozelanicus* is merely a sharp ridge on the suborbital plate. The suborbital, in fact, more closely resembles that of the Japanese *Monocentris japonicus* than the narrow strip of *gloria-maris*. The pattern of the ridges on the head, also, are nearer to those of *japonicus*, as also is the narrow scale on the isthmus. Head bones spinose along the crest and over the eyes. Teeth as in *gloria-maris*, minute, closely set, tubercular, covering the jaws, palatines, pterygoids and branchial arches; an oval patch on the

*Since this was written I have received through the courtesy of Dr Anderson, Director, and Mr. Whitley, Icthyologist, of the Australian Museum, Sydney, a New South Wales specimen of *gloria-maris*, 102 mm. in length (exclusive of caudal fin). The spines and radial sculpture of the scales are much more prominent than in the New Zealand species, and the other discrepancies noted are not characters likely to vary much with age.

vomer, and with a few scattered teeth on the tongue. Mandibulary luminous discs not present. Dorsal spines six, strong, irregular, coarsely longitudinally ridged, alternately inclined to left and right, erected and depressed by a prominent basal membrane. Scales large, coarse, each with a strong median carina and bearing a backwardly pointed low spine near the centre, as well as with subsidiary radial spinulose striae.

There are 19 scales in a lateral line from the gills to the tail, eight along the ventral keel and six along the lateral keels. Colour dull grey, scale interstices and mouth parts black, fin rays colourless.

The species seems to exhibit a composition of the salient features of *Monocentris japonicus* and *Cleidopus gloria-maris*. It resembles the former in the deep suborbital bone, absence of luminous organs and narrow isthmus, but conforms with the latter in having six instead of four dorsal spines, similarly strongly sculptured scales, spiny head processes, presence of teeth on the vomer, and black mouth parts.

The sum of characters is more in accord with *Cleidopus*, yet there seems little basis for the separation of the two genera. However, I follow Australian usage in ascribing the New Zealand fish to *Cleidopus*.

CHAETODONTIDAE.

CHELMONOPS Bleeker 1876.

1876 *Chelmonops* Bleeker, Arch. Néerl. Sci. Nat. 11, 2, p. 304. Orthotype *Chaetodon truncatus* Kner. (Jordan, Gen. Fish. 3, 1919, p. 383).

Chelmonops howensis Waite 1903. Pl. 37, fig. 1.

Rec. Austr. Mus., vol. 5, No. 1, p. 33, fig. 2.

A specimen of this attractive little fish was taken at the Poor Knights Islands, off the North Auckland coast, by Mr. W. M. Fraser, of Whangarei, in June, 1938. A genus as well as a species is hereby added to the New Zealand fauna.

The New Zealand specimen seems identical with the Lord Howe type, the only difference noted being in respect to the ground colour, a relatively unimportant factor. In the New Zealand example the ground colour was bright yellow, whereas in the Lord Howe holotype it is recorded as white. This probably means that the Lord Howe specimen had been bleached in the preservation.

The essential characteristics of the New Zealand specimen are:—D.12/25: A.3/18: V.1/15: P.16: C.17.

The black colour bands are identical with those of the holotype, as also is the shape.

Total length, 175 mm.; maximum depth of body, 90 mm.

Locality: Poor Knights Islands (in deep water), North Auckland coast.

CARANGIDAE.

SERIOLA Cuvier 1829.

1829 *Seriola* Cuvier Règn. Anim., ed. 2, vol. 2, April, p. 205. Logotype: *S. dumerili* Risso.

Seriola hippos Gunther 1876.

1876 *Seriola hippos* Gunther, Ann. Mag. Nat. Hist., Ser. 4, vol. 17, p. 392, Sydney, New South Wales.

1899 *Seriola hippos:* Waite, Mem. 4 "Thetis," Aust. Mus., p. 71.

1916 *Seriola hippos:* Roughley, Fishes of Australia and their Technology. Tech. Mus. Sydney, p. 100, pl. 31.

1929 *Seriola hippos:* McCulloch Mem. 5, Austr. Mus., p. 183.

A fine specimen of this New South Wales species, 372 mm. in total length, was trawled from the fishing launch "Podgora," in 20 fathoms, off Houhora Heads, North Auckland, in January, 1937. The specimen, which was presented by Messrs. M. and J. Vella, is preserved in the Auckland Museum (Ps. 430-1), and a cast of it is on exhibition.

The fin formula, D.8.1/25: A.2.1/16: V.1/5: P.22: C.19, coincides with that given for the typical species, and both outline and coloration are identical with Roughley's excellent colour plate l.c. (1916, pl. 31).

This adds a species to the New Zealand faunal list, and considerably extends the range of a fish that had been considered precinctive to the New South Wales coast.

Its popular name is the "Samson fish."

ALEUTERIDAE.

ALEUTERUS Bosc. 1816.

1816 *Aleuterus* Bosc. Nouv. Dict., Sept., p. 302.

1816 *Aluterus* Cloquet, Dict. Sci. Nat. ed. 2, vol. 1, Oct. Suppl. p. 135. Logotype, *Balistes monoceros* Linnaeus (fixed by Whitley in "Fish N.S. Wales" (McCulloch) ed. 2, July 14, 1927).

1816 "Les Aluteres" Cuvier Règn. Anim., ed. 1, vol. 2. 1817—Dec. 1816, p. 256.

1817 *Alutera* Oken, Isis, 1817, p. 1, 183 (fide Sherborn) Nom. nud.

1822 *Alutera* Schinz, Das Thierreich (Cuvier), vol. 2, p. 256.

1831 *Aluteres* Lesson, Voy. Coquille, Zool. Soc., vol. 2, p. 105.

1840 *Aleuteres* Richardson, Proc. Zool. Soc. Lond., vol. 8, Aug., p. 28.

1846 *Alutarias* Agassiz, Nomen. Zool. Index Univ.

1846 *Aleuterius* Richardson, Zool. Voy. Erebus and Terror, p. 67.

1929 *Aluterus* Whitley, Rec. Aust. Mus., vol. 17, No. 3, p. 141.

Aleuterus cf. **monoceros** (Linnaeus), Pl. 37, fig. 2.

1758 *Balistes monoceros* Linnaeus, Syst. Nat. ed. 10, Jan. 1, p. 327. Based on Mus. Ad. Fr. 2; *Balistes monoceros* Osbeck. iter. 110; and "Unicornu," etc. Catesb. car. 2, t. 19. Habitat in Asia, America (=near Hong Kong).

A specimen which I ascribe provisionally to this species was taken in 35 fathoms off Great Exhibition Bay, near Parengarenga, on 17th May, 1938. The specimen was presented to the Auckland Museum by Captain F. Vela, of the fishing vessel "St. Vincent."

I am indebted to Mr. Gilbert P. Whitley, Ichthyologist at the Australian Museum, Sydney, for the opinion that this New Zealand specimen may be identical with the one recorded as *monoceros* from New South Wales waters, but possibly may prove distinct when compared with Chinese topotypes.

Whitley 1929 l.c. pp. 141-143 published a transcription of Forster's translation from the rare work of Osbeck's, in which *monoceros* was described, and it reads as follows:—

"The 8th August, 22° 4′ N.L.

PIEDERA *Bianca*, or the *White rock*, came within our sight, towards noon. The wind abating, the heat became intolerable. Towards the evening we anchored.

BALISTES *Monoceros* is a species of fish which looks like a flounder at a distance, and has almost the same taste, but is not so fat. The fish was half a foot long, and its body covered with a dark-grey rough skin. We caught several with a hook, and this afforded me an opportunity of describing them.

ON each side is a *spiracle*, and next to it, within the skin, two transversal bones: the first *dorsal fin* near the eyes, consists of a reversed brittle bone, which is armed with little hooks; it is the length of a finger's breadth, and a little longer than the other fins: the second *dorsal fin* has forty-seven rays: the *pectoral fins* are the least; each has thirteen rays: the *ventral fins* are wanting; in their stead is a long bone under the skin: the *anal fin* is opposite to the second dorsal fin, and has 51 rays: the *tail* has 12 ramose rays: the *mouth* is oblong and narrow: the lower *jaw* is somewhat longer than the upper; on each side of it stand three pointed broad *teeth*, connected together below, of which the middlemost is split: the *lips* are moveable."

"The 9th of August.

THE ship hardly moved from the place where it was the day before. We saw besides *Piedra Blanca* the isle of *Lantoa*, and some other isles on the *Chinese* coast, on our right."

DESCRIPTION OF THE NEW ZEALAND SPECIMEN.

Specimen of large size for the genus 450 mm. in total length and a maximum body depth of 148 mm.

D.47; A.49; P.14; C.12.

Length of head 3.6, height of body 2.36, length of caudal 10 and depth of caudal peduncle 13.63 in total length. Eye 19 mm. =6.57 in length of head, which is 125 mm. Eye situated in vertical line with pectoral fin and dorsal spine, slightly nearer to the latter. Gill opening very oblique, 34 mm. in length. Nostrils near foot of a short brow ridge in front of the eye. Teeth long and sharp (slightly damaged), three in each jaw. Dorsal spine very small (damaged at tip), groove 10 mm. in length. Dorsal and anal rays similar, of medium height, maximum length 27 mm. Pectoral fin rays 25 mm. in maximum length. In addition to the brow ridge already noted, there is a second ridge running horizontally from just below the mouth towards the pectoral fin. Upper profile of head as an even low arc, lower profile interrupted by an obtuse chin-like swelling. Skin almost smooth to the touch, scales exceedingly small and armed with microscopic dense erect spicules, each with a black pigment spot at its base. So dense are the spicules that it is difficult to ascertain the exact number of spicules per scale.

Colour yellowish buff below, shading above to light brown obscurely mottled with darker; fins light yellow. (Note approximate only, as I was absent when the specimen arrived and am relying upon the description as recorded at the Museum when the specimen was received.)

A comparison between the fin ray formulae of Osbeck's specimen and the New Zealand one is:—

D.47; A.51; P.13; C.12 (Osbeck).

D.47; A.49; P.14; C.12 (N.Z. sp.).

A genus and species is hereby added to the New Zealand fauna.

CORYPHAENIDAE.

Coryphaena Linnaeus 1758. Logotype: *C. hippurus* Linn.

Coryphaena hippurus Linnaeus 1758.

A specimen of this, the widely distributed "dolphin-fish," was caught by Dr. J. A. Paterson, of Auckland, at Cape Brett, in April, 1938, making the first record of the species in New Zealand waters.

SPARIDAE.

Pagrosomus Gill. 1893.

Pagrosomus auratus (Block & Schneider 1801).

1801 *Labrus auratus* Block & Schneider, Syst. Ichth. p. 266, Queen Charlotte Sound, N.Z.

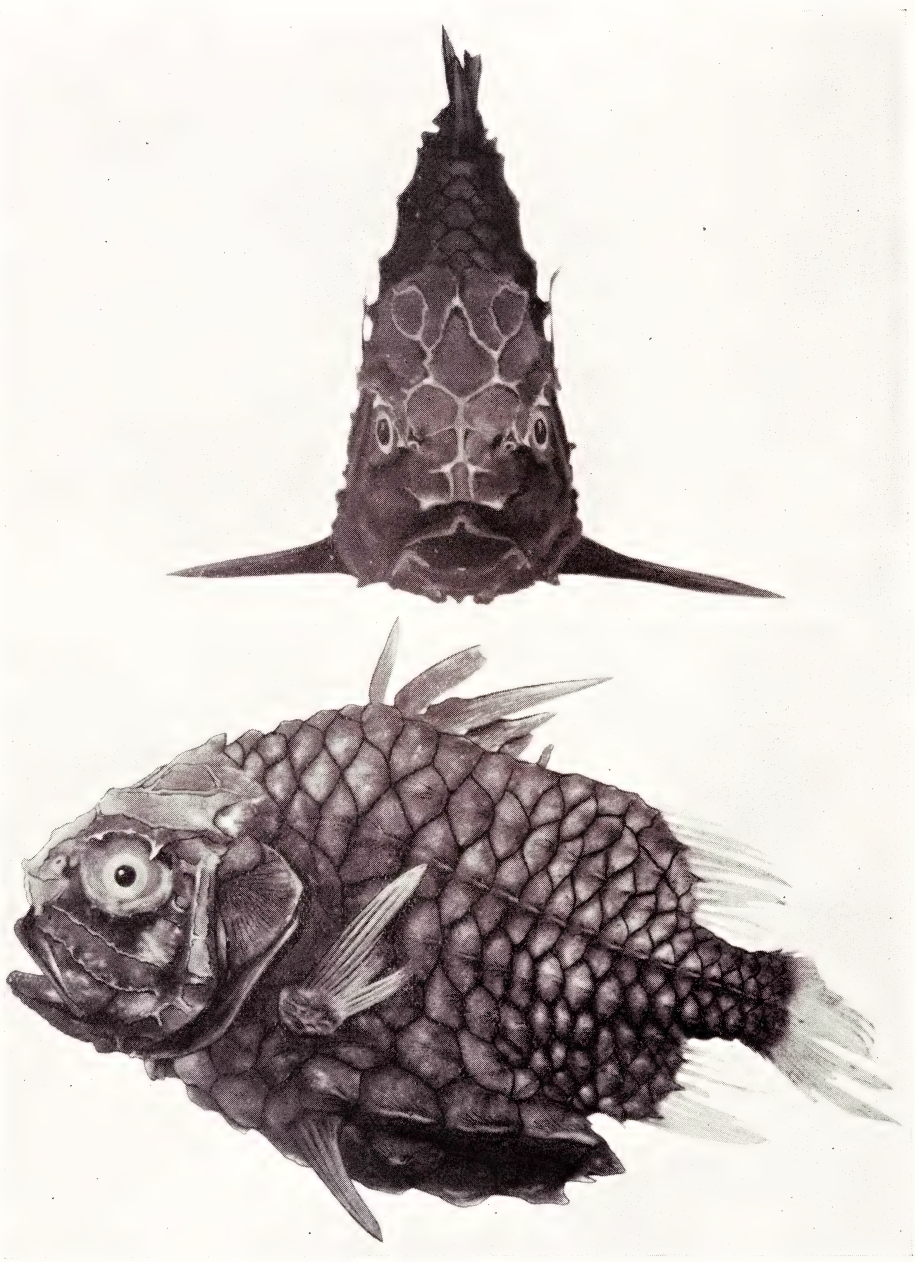
1830 *Pagrus micropterus* Cuvier & Val. Hist. Nat. Poiss. 4, p. 163, Mouth of Thames River, N.Z.

1842 *Pagrus latus* Richardson. Ann. Mag. Nat. Hist. 9, p. 392. Between "Opooragi" and "Owhooragi," N.Z.

Examination of a large number of examples of the common snapper from both New Zealand and New South Wales localities suggests that the New Zealand *auratus* is restricted to local waters and that the Australian fish is a closely related but nevertheless distinct species, for which two names are already available, *unicolor* Q. & G. 1824 from Dirk Hartog and Shark Bay, Western Australia, and *guttulatus* Cuv. & Val. 1830, New Holland, the former having priority.

Sydney snapper at all stages of growth exhibit a tendency towards a bony protuberance on the top of the head, being particularly prominent in aged examples.

New Zealand specimens, on the other hand, never exhibit this feature even in senility. The largest local specimen of which I have a record was caught in February, 1938, by Messrs. W. Meyer and A. Watemburg from 36 fathoms off Gannet Island, Kawhia, and it measured 41 inches in length and weighed 28 lbs. In outline even this outsized example had no trace of the bony head protuberance.



Cleidopus neozelanicus n. sp.

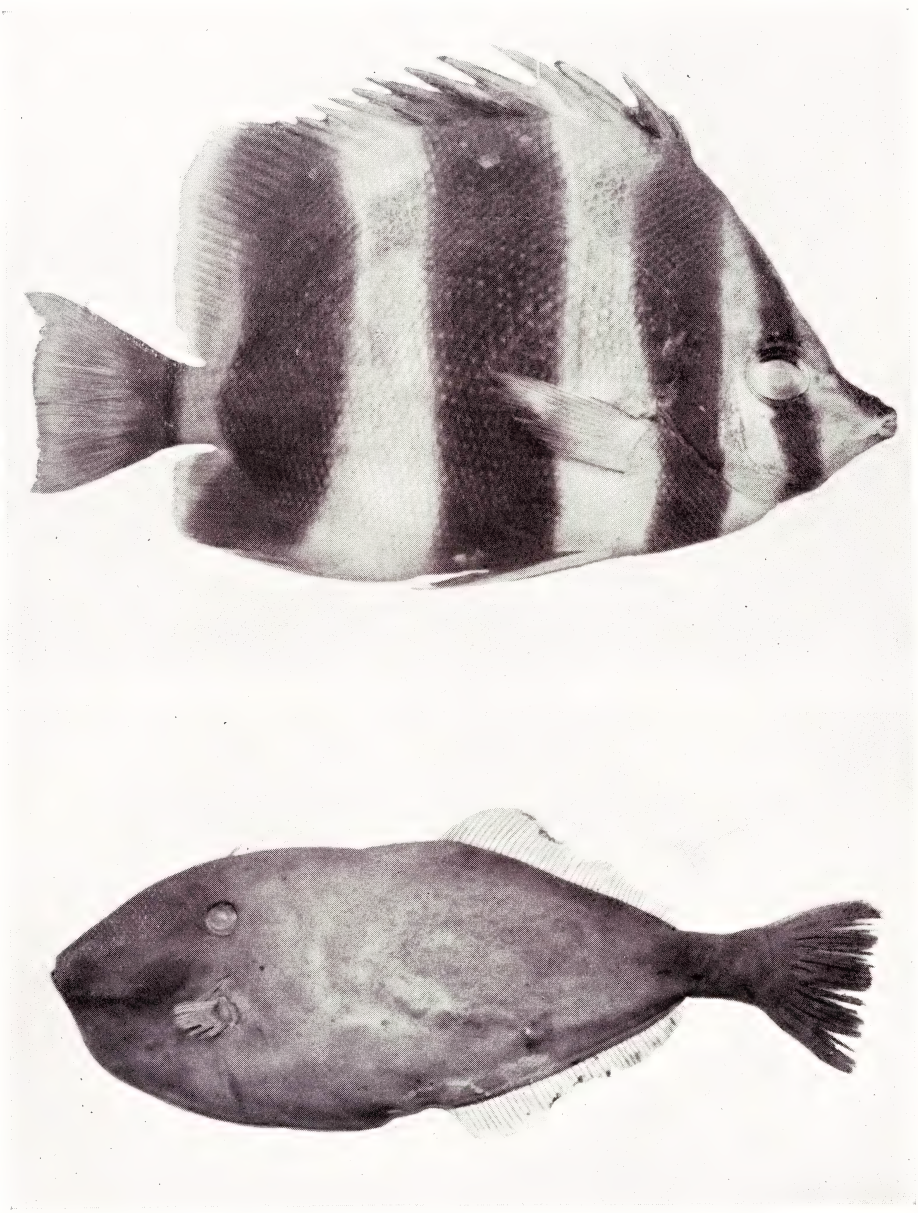


Fig. 1. *Chelmonops howensis* Waite 1903.

Fig. 2. *Aleuterus* cf. *monoceros* Linnaeus 1758.